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VARIETY TRIALS OF MAYAGUEZ SUGARCANE SEEDLINGS IN 1933.

MAYAGUEZ 28 SHOWS WIDE ADAPTABILITY.

By Robert L. Davis, Agronomist.

SUMMARY OF PREVIOUS RESULTS.

In Agricultural Notes No. 61 results were given from 1931 and 1932 trials with six mosaic resistant Mayaguez varieties, Nos. 3, 7, 28, 42, 49, and 63. Briefly summarized they were as follows: Mayaguez 28 planted in a gran cultura (1) irrigated Coloso silty clay soil approached either B.H. 10(12) or P.O.J. 2878 in sugar production. Under the same conditions Mayaguez 28 was superior to P.O.J. 2725, P.O.J. 2714, S.C. 12/4, Mayaguez 3, 7, 42, and 49. At Central Pagán in irrigated gran cultura trials Mayaguez 3 and 42 exceeded P.O.J. 2725 in cane production. In general field trials in the western end of the island, Mayaguez 3, 7, 28, 42, and 49 gave a satisfactory sucrose content. Data for Mayaguez 63 were too meagre to warrant any statement as to juice quality. Primavera (2) trials at Central Aguirre indicated that in that area B.H. 10(12) is, because of ability to ripen under humid conditions, superior to Mayaguez 3, 7, 42, 63, and F.C. 916. General observations and trials near Mayaguez indicated that Mayaguez 3 and 42 are not drought resistant and are unsuited for trials without irrigation in droughty areas.

Mayaguez 7, 28, 49, and 63 on the contrary all showed drought resistance and were presumably adapted to both irrigated and non-irrigated areas. Mayaguez 28 in particular showed a wide adaptability and gave good results on rich friable river bottom soil subject to overflow, on irrigated silty clay lowland and in both humid and dry hillside cultivation. The more promising varieties appeared to be Mayaguez 28, 63, and 42 in the order named. The objects of the present progress report are to give the results of the 1933 variety trials and to discuss the qualities of the more promising Mayaguez seedlings. Some of the results are more understandable owing to the co-operation of Mr. Ray C. Roberts, of the Bureau of Chemistry and Soils, who made a special survey of the fields where variety trials were conducted and identified the soil types.

COLOSO FIRST RATOON VARIETY TRIAL.

This trial was conducted in co-operation with Central Coloso on irrigated lowland. The soil was a stiff alluvial clay rather difficult to work and was identified as Coloso silty clay (3). Mayaguez 28 suffered but not markedly from broken tops due to the hurricane. Dry top rot depleted the stand of P.O.J. 2714 but otherwise there were no abnormal conditions that seriously affected yield.

Mayaguez 28 (table 1) again compared well with B.H. 10(12) and P.O.J. 2878 in sugar production. Owing to both lower tonnage and sucrose P.O.J. 2725 was inferior to Mayaguez 28. P.O.J. 2714 and S.C. 12/4 were failures for the two year crop period. Mayaguez 49 which gave satisfactory results in gran cultura yielded a low cane tonnage in the ratoon crop. As may be observed Mayaguez 28 was outstanding for high purity and in this respect exceeded all varieties including B.H. 10(12), and P.O.J. 2878; the purity of Mayaguez 28 also exceeded that of B.H. 10(12) in the gran cultura trial of the preceding year. The superiority of Mayaguez 28 to S.C. 12/4 was due largely to its prolific stooling habit; during both seasons the former produced as many canes per stool as P.O.J. 2878.

- (1) Gran cultura - cane planted in the summer and fall.
- (2) Primavera - spring planted cane.
- (3) Acknowledgment is made to the Bureau of Chemistry and Soils and to the Insular Experiment Station for permission to use the data of the soil survey prior to publication. The names of the soil types are not final and are subject to change as the soil survey progresses.

Table No.1

VARIETY TRIAL AT COLOSO.

First ratoons, under irrigation, cut at 10 2/3 months.
Each estimated yield was the average of eight 1/20 acre plots.

Variety	Yields of cane per acre	Proportion of sugar	Yields of sugar per acre	Abnormal conditions affecting production
	Tons	Percentage	Tons	
B.H. 10(12)	25.61	13.57	3.48	Cane production in Mayaguez 28 was reduced, but not markedly as a result of cane tops broken by the hurricane. The stand of P.O.J. 2724 was depleted by dry top rot (Plasmopodia, Matz).
Mayaguez 28	22.42	14.24	3.19	
P.O.J. 2878	23.24	13.50	3.14	
P. R. 826	23.92	12.97	3.10	
P.O.J. 2725	21.32	13.72	2.93	
Mayaguez 42	18.66	14.05	2.62	
Mayaguez 7	17.60	14.21	2.51	
Mayaguez 3	18.06	13.86	2.50	
Mayaguez 49	16.62	14.03	2.33	
S. C. 12/4	11.38	13.83	1.57	
P.O.J. 2714	6.51	12.91	0.84	
P. R. 801	5.17	13.69	0.71	

This trial was planned and planted through the co-operation of Mr. F. Colón Moret, former field superintendent, Central Coloso; Mr. Herminio Acosta of the Insular Department of Agriculture & Commerce helped supervise harvest.

THE QUIÑONES GRAN CULTURA VARIETY TRIAL IN THE SAN GERMAN VALLEY.

In table No.2 are given the results of the Quiñones gran cultura variety trial on irrigated lowland conducted in co-operation with the Insular Department of Agriculture and Commerce and Mr. Ernesto Quiñones. The soil was Margarita silty clay to clay which is similar to the soil of the Coloso trial although better drained owing to a layer of sand at 3-1/2 to 4 feet. The conditions were favorable for crop production aside from excessive rainfall in September 1931 which resulted in poor germination of P.R. 803, F.C. 916, and P.O.J. 2714. The drought of March and April 1932 probably gave some advantage to Mayaguez 7 and P.O.J. 2725. The hurricane did not cause damage here and practically no rotten cane developed. P.O.J. 2714, as at Coloso, was badly stunted by dry top rot.

Both Mayaguez 7 and 42 made a very rapid growth and soon were taller than all other varieties under trial. When the canes were 7-1/2 months old crop estimates were made based on the volume of cane per variety; the more promising varieties at this time were Mayaguez 7, and 42, and P.O.J. 2725. P.O.J. 2714 has made a stunted growth and was apparently unadapted to this district. Results in harvested cane confirmed these estimates. Mayaguez 7 ranked first in cane production and exceeded P.O.J. 2725 by one ton of sugar per acre. This superiority was owing largely to its very high sucrose content. Mayaguez 42 compared well with P.O.J. 2725 and was somewhat superior to both P.R. 803 and F.C. 916. Owing to poor germination the stands of the latter two varieties were irregular. Mayaguez 7 although superior to P.O.J. 2725 in this trial was inferior to Mayaguez 63 in the unirrigated San German valley trial at Margarita and is probably inferior to P.O.J. 2878 on lowland areas of this district; additional trials are needed comparing these varieties here. Mayaguez 7 was superior to P.O.J. 2878 in drought resistance and may prove more adapted than the latter to upland cultivation in droughty areas.

Table No.2

VARIETY TRIAL AT THE QUIÑONES FARM.

Gran cultura plantings under irrigation.
Each estimated yield was the average of six 1/20 acre plots.

Variety	Yields of cane per acre	Proportion of sugar	Yields of sugar per acre	Abnormal conditions affecting production
	Tons	Percentage	Tons	
Mayaguez 7	61.45	12.98	7.98	Heavy rainfall in September 1931 caused poor germination in plots of P.R.803 and F.C.916. Dry top rot was pronounced in plantings of P.O.J. 2714. No hurricane damage was observed.
Mayaguez 42	55.83	12.46	6.96	
P.O.J. 2725	56.87	11.63	6.61	
P. R. 803	55.67	11.72	6.52	
F. C. 916	50.52	11.80	5.97	
P.O.J. 2714	24.74	10.38	2.57	

Mr. Ulpiano E. Colóm of the Insular Department of Agriculture & Commerce helped supervise the harvest of the Quiñones trial. (§)

THE MARGARITA GRAN CULTURA VARIETY TRIAL ON UNIRRIGATED LOWLAND
IN THE SAN GERMAN VALLEY.

The results of the Margarita unirrigated gran cultura trial conducted in co-operation with Russell & Company are given in table No.3. Both drought and hurricane had marked effects on cane production. The soil varied from Margarita silty clay to Margarita clay imperfectly drained and was similar to that at the Coloso and Quiñones trials. P.O.J. 2725, Mayaguez 7, 49, and 63 all proved drought resistant but Mayaguez 3, 42, 61, and B.H. 10(12) were eliminated by the winter's drought. P.O.J. 2878 was somewhat stunted by the drought.

Mayaguez 63 ranked first in sugar production. It equaled P.O.J. 2725 in sucrose content and owing partly to its hurricane resistance was superior in cane tonnage; the production of rotten cane was from two to three times as great for P.O.J. 2725 and P.O.J. 2878 as for Mayaguez 63. In spite of inferior cane production, Mayaguez 49, owing to its very high sucrose content, equaled P.O.J. 2725 in tons of sugar per acre. Mayaguez 7 according to its volume of cane at the going down period was very promising. Owing to hurricane injury, however, it developed much rotten cane and proved quite inferior to Mayaguez 63.

Conclusion: - Mayaguez 63 is worthy of more extensive trials in comparison with P.O.J. 2725 and P.O.J. 2878, in the San Germán valley.

Table No.3

VARIETY TRIAL AT MARGARITA.

Gran cultura plantings without irrigation.
Each estimated yield was the average of four 1/20 acre plots.

Variety	Yields of cane per acre	Proportion of sugar	Yields of sugar per acre	Abnormal conditions affecting production
	Tons	Percentage	Tons	
Mayaguez 63	62.87	11.926	7.50	B.H. 10(12) and Mayaguez Nos. 3, 42, and 61 were eliminated by the drought of the winter of 1931. The hurricane of September 1932 caused severe damage to Mayaguez 7, P.O.J. 2878, and Mayaguez 151. Mayaguez 63 resisted both drought and hurricane.
P.O.J. 2725	60.70	12.077	7.33	
Mayaguez 49	54.05	13.417	7.25	
Mayaguez 7	49.25	12.263	6.04	
Mayaguez 151	43.87	11.629	5.10	
P.O.J. 2878	41.37	11.678	4.83	
Mayaguez 3	38.87	12.015	4.67	
Mayaguez 42	35.00	12.987	4.54	
B.H. 10(12)	31.87	12.868	4.10	

CASTRO GRAN CULTURA VARIETY TRIAL ON UNIRRIGATED LOWLAND
IN THE SAN GERMAN VALLEY.

Results of the Castro gran cultura variety trial conducted in co-operation with Russell and Company are given in table No.4. P.O.J. 2878 was superior to Mayaguez 28, 42, and 151. Both Mayaguez 28 and 42, as indicated by the high proportion of rotten cane, were severely damaged by the hurricane of September, 1932. Mayaguez 151 equaled P.O.J. 2878 in cane production but owing to its low sugar yield percentage fell below the latter in tons of sugar per acre. Mayaguez 28, with good tonnage and a high sucrose content, ranked next to P.O.J. 2878 in sugar production. Crop estimates made prior to the hurricane indicated Mayaguez 28 would equal P.O.J. 2878 in cane tonnage. Mayaguez 28 was superior to P.O.J. 2878 in sugar yield percentage; this is in harmony with other data.

§ Acknowledgment is made to the Insular Experiment Station which co-operated fully in this trial.

Table No.4

VARIETY TRIAL AT THE CASTRO FARM.

Gran cultura plantings without irrigation.
Each estimated yield was the average of five to ten 1/20 acre plots.

Variety	Yields of cane per acre	Proportion of sugar	Yields of sugar per acre	Abnormal conditions affecting production
	Tons	Percentage	Tons	
Mayaguez 28	64.34	12.52	8.05	Much rotten cane developed in plots of Mayaguez 28 as a result of the hurricane. Heavy rainfall during the month prior to harvest low- ered the sucrose content.
P.O.J. 2878	73.18	12.22	8.95	
Mayaguez 151	75.18	9.74	7.32	
P.O.J. 2878	74.67	10.78	8.05	
Mayaguez 42	58.52	12.39	7.25	
P.O.J. 2878	78.72	11.32	8.91	

The Margarita and Castro trials were conducted through the co-operation of Mr. Owen Proverbs, district superintendent of cultivation, Russell & Company.

PAGAN E-3 GRAN CULTURA VARIETY TRIAL ON IRRIGATED LOWLAND IN THE AÑASCO VALLEY.

In table No.5 are given the results of a gran cultura variety trial conducted in co-operation with Russell & Company at Central Pagán. As at the Castro and Margarita trials in the San Germán valley the results are unreliable owing to the hurricane injury and are of value chiefly as indicating ability of the different kinds of canes to resist decay and give good sugaryields in spite of hurricane winds and excessive rainfall. Mayaguez 48, F.C. 916, and Mayaguez 7 compared well with B.H.10(12) in low proportion of rotten canes. Among these varieties, Mayaguez 48 was the best, equaling B.H. 10(12) in sugar production; this is, however, only a preliminary trial made on two plots and is not conclusive. Mayaguez 3 and 42, which according to crop estimates made prior to the hurricane and based on cane volumes were superior to B.H. 10(12) in cane tonnage, were severely injured by the hurricane and fell below B.H. 10(12) in both cane and sugar production. The proportion of rotten cane was very high in plots of Mayaguez 42. Owing to its erect canes Mayaguez 3 developed less rotten cane than Mayaguez Nos.42 and 151. Among the Mayaguez seedlings included in this trial Nos.3, 48, and 62 appear worthy of additional trials and Mayaguez Nos.7, 42, and 151 should be discontinued. The recommendation in respect to Mayaguez 42 takes into consideration previous results; the sugar yield of the preceding season was low.

Table No.5

VARIETY TRIAL AT CENTRAL PAGAN.

Gran cultura plantings under irrigation.
Each estimated yield was the average of two to four 1/8 acre plots.

Variety	Yields of cane per acre	Proportion of sugar	Yields of sugar per acre	Abnormal conditions affecting production
	Tons	Percentage	Tons	
Mayaguez 48	53.2	12.98	6.90	Mayaguez3, and 42 Mayaguez 3, and 42 developed much rotten cane as a result of the hurricane.
B.H. 10(12)	53.4	12.78	6.82	
F.C. 916 §	52.4	12.37	6.48	
B.H. 10(12)	49.2	13.54	6.66	
Mayaguez 3	53.4	10.92	5.83	
B.H. 10(12)	56.3	11.75	6.62	
Mayaguez 42	51.5	10.01	5.15	
B.H. 10(12)	58.5	11.52	6.75	
Mayaguez 32	43.6	12.27	5.35	
Mayaguez 7 §	43.0	11.09	4.77	
Mayaguez 151 §	38.4	9.87	3.79	
B.H. 10(12)	45.0			
Mayaguez 62 §	49.0			

§ Only single plots of these varieties.

The Pagán trials were planted and harvested through the co-operation of Mr. Waldemar Riff, in charge of experiments, Central Pagán, Russell & Co.

AGUIRRE FIRST RATOON VARIETY TRIAL.

Mayaguez 3, 7, 42, 63, and F.C. 916 were tested in a first ratoon variety trial at the Josefa Farm of Central Aguirre through the co-operation of Mr. Maybin S. Baker, agronomist. In the 1932 primavera trials under an abnormally humid condition B.H. 10(12) ripened better and proved superior to all other varieties in sugar production. In 1932 when the critical ripening period was normal, Mayaguez 63 was equal to B.H. 10(12) in sucrose content. Since it was superior to B.H. 10(12) in cane production both in primavera and first ratoon crops, Mayaguez 63 appears worthy of additional trials on the south coast. Mayaguez 3, 7, and 42 were inferior to Mayaguez 63 in cane production. Mayaguez 7 ranked the lowest of all varieties under trial. Mayaguez 42 compared well with B.H. 10(12) in sugar production both years, but it does not trash readily and this renders it less desirable than B.H. 10(12) in areas such as the south coast where mosaic is not a serious factor. In another 1933 ratoon trial harvested near Central Cortada in May, after a humid ripening season, B.H. 10(12) proved far superior to both Mayaguez 63 and 42 in sugar production.

QUALITIES OF MAYAGUEZ 28.

The drought resistance and mosaic resistance of Mayaguez 28 have both been repeatedly demonstrated over a period of years. Among other desirable qualities are spreading and prolific growth habit, high purity, and comparative freedom from pith or drying out at cane centers.

MAYAGUEZ 28'S PROLIFIC AND SPREADING GROWTH HABIT RETARDS EROSION AND REDUCES CULTIVATION COSTS. - Mayaguez 28 produces as many canes per stool as P.O.J. 2725 or P.O.J. 2878. Its stools are very spreading and its many broad leaves remain almost in contact with the ground during the first 3 or 4 months. As a result Mayaguez 28 covers the ground very rapidly, several weeks before P.O.J. 2725, or P.O.J. 2878, and erosion is thereby retarded.

As the following instances indicate, reduced cultivation costs may also be expected through the cultivation of Mayaguez 28. One acre of first ratoons on the farm of Mr. Ernesto Quiñones closed in without any hand weeding. Five acres of first ratoons on the Esperanza Farm of Central Igualdad closed in with one hand weeding. Twenty acres of Mayaguez 28 gran cultura at Central Constancia closed in with two hand weedings. It is estimated that Mayaguez 28 requires one hand weeding less than P.O.J. 2878 and 4 or 5 hand weedings less than B.H. 10(12) or S.C. 12/4.

MAYAGUEZ 28 EQUALS OR EXCEEDS B.H. 10(12) OR P.O.J. 2878 IN PER CENT PURITY. - Mayaguez 28 has given a sucrose content superior to that of P.O.J. 2725 for the six-year period 1928 to 1933 inclusive. Recently data over a two-year period at Coloso (table No. 1) indicate that it has a higher per cent purity than either B.H. 10(12) or P.O.J. 2878. Such data as are available from the 1933 crop at Isabela, Coloso and Rincon, indicate that Mayaguez 28 will give juices superior to P.O.J. 2878 in that area.

MAYAGUEZ 28 ARROWED CANES ARE COMPARATIVELY FREE FROM PITH. - Isabela and Coloso cane planters have maintained that Mayaguez 28 canes are solid and free from pith. The centers of Mayaguez 28 canes were examined joint by joint at Coloso, Mayaguez, Hormigueros, and at Central Mercedita, Ponce. Non-arrowed stalks and tapered stalks were found to be solid from top to bottom. Among 150 arrowed stalks examined, 50 in each of three different localities, no hollowing was observed and on the average only 7 to 9 inches of the topmost 2 joints were found to be pithy. The proportion of pithy cane top was about 4 times as great in arrowed canes of P.O.J. 2725 and P.O.J. 2878 as in those of Mayaguez 28. The latter has therefore a double advantage over P.O.J. 2725 since it arrows less profusely and later, and develops very little pith in such arrowed stalks as form. Consequently Mayaguez 28 canes have a higher specific gravity than those of P.O.J. 2725. The higher specific gravity and high purity of Mayaguez 28 result in low transportation costs per ton of sugar.

DESIRABLE QUALITIES OF MAYAGUEZ 63.

Mayaguez 63 has large solid cane that remain erect and resist decay. It is resistant to mosaic, drought, and hurricane winds. Other good qualities are, leaves that trash easily and are free from irritating hairs at harvest time, a sparse, late arrowing habit, and a reasonably good sucrose content. In view of their importance and lack of general knowledge respecting them, the hurricane resistance and sucrose content of Mayaguez 63 are treated in special sections in this report.

MAYAGUEZ 63 CANES RESIST HURRICANE WINDS AND RAIN.

The hurricane resistance of Mayaguez 63 was first noted in 1928 in the first trial of Mayaguez 63, consisting of a single row 18 feet long; in February, 1928, 5 months after the San Felipe hurricane, the canes in adjoining rows of P.O.J. 2725 had for the most part decayed while such as remained had many broken cane tops. In contrast, canes of Mayaguez 63 were all healthy and had no broken tops.

In the preliminary gran cultura trial at Central Aguirre consisting of two 1/50 acre plots Mayaguez 63 canes remained erect and developed practically no rotten cane although a very heavy crop was produced, 92.8 tons per acre. Observations made at harvest time were later confirmed through the co-operation of Mr. Maybin S. Baker, agronomist of Central Aguirre. After the trash had been burned the cane stumps of several 35 feet segments of each plot were cleaned off with the fingers and counts taken of those healthy and those decayed. Plots of Mayaguez 63 were estimated to have had only half as many decayed canes as those of B.H. 10(12).

Mr. Alberto Esteves grew 5 acres of Mayaguez 63 gran cultura on an exposed hillside near Moca in 1932 to which San Ciprián hurricane did very little damage. The broad thick leaves of Mayaguez 63 remained practically intact and were only shattered at the tip ends. The canes were not broken and very little rotten cane developed. Plantings of P.O.J. 2725 and P.O.J. 2878 in this vicinity suffered severely. The percentages of rotten cane that developed in plots of these varieties at the Margarita trial, in the San Germán valley, four months after the hurricane were estimated by counting 100 harvested canes per variety, taking 25 in each of four plots. The average for Mayaguez 63 was only 11 per cent, whereas that for P.O.J. 2878 was 33 per cent and that for P.O.J. 2725 was 19 per cent. Other than the stunting which affected all varieties, Mayaguez 63 did not suffer much.

The record of three gran cultura crop seasons, two of them affected by severe winds and protracted flooding, indicate that Mayaguez 63 canes are very resistant to decay. This quality may compensate for its only moderately prolific stooling habit.

THE SUCROSE CONTENT OF MAYAGUEZ 63 PROVES SATISFACTORY IN NORMALLY DRY RIPENING SEASONS.

The extension of Mayaguez 63 has been slow because it was somewhat susceptible to mosaic and preliminary analyses indicated it did not have a very rich juice. Data gathered in recent years have, however, consistently indicated that Mayaguez 63 is, like F.C. 916, commercially resistant to mosaic, and ripens well when the critical ripening period is not humid.

During the 1930 grinding season at Mayaguez, abnormally low sugar yield percentages were reported from a humid lowland field of Mayaguez 63 on the farm of Mr. Julio Ramírez. After the abnormally wet season of 1932 two quarter acre plots of Mayaguez 63 primavera ground at Central Aguirre in April averaged only 10.17 per cent, whereas the sugar yield of adjoining plots of B.H. 10(12) was 13.22 per cent.

Contrasting data were secured in 1932 and 1933 where ripening conditions were satisfactory. On the farm of Mr. Esteban Ferrer, near Rincón, 0.45 acre of Mayaguez 63 produced at the rate of 84.5 tons of cane per acre with a sugar yield of 12.69 per cent. The soil was a well drained friable alluvial type. In 1933 the first ratoon crop at Aguirre, two-quarter acre plots of Mayaguez 63 equaled B.H. 10(12) in sugar yield percentage. Mr. Alberto Esteves and Central Eureka both report satisfactory sugar yields from the 1933 crop of Mayaguez 63. From the plots of the variety trial at Margarita (see table No. 3) 15 tons of Mayaguez 63 ground at Guanica Central gave a sugar yield of 11.93 per cent, practically the same as a like amount of P.O.J. 2725. Data taken during the 5-year period 1929 to 1933 inclusive indicate that Mayaguez 63 will give a satisfactory sugar yield percentage during a normal ripening season. During a humid season, however, results have not been as satisfactory as may be expected from B.H. 10(12). Humid lowland areas are probably not adapted to this variety.

SUMMARY:

Among the Mayaguez seedlings which have been extensively tested up to the present time, Mayaguez 28 and 63 appear to be the most promising. Mayaguez 3 and 42 are not adapted to cultivation without irrigation in droughty areas similar to the San Germán valley; they also are more susceptible to hurricane damage than B.H. 10(12) and consequently a wide extension of either would constitute a high risk. Mayaguez 7 compared well with P.O.J. 2725 in sugar production in the San Germán valley but has given results inferior to Mayaguez 63 and 28 elsewhere. Mayaguez 49 gave unsatisfactory results in the Coloso ratoon trials. Mayaguez 28 was, owing to a high proportion of rotten cane, inferior to P.O.J. 2878 in the Castro gran cultura trial in the San Germán valley.

Some of the desirable qualities of Mayaguez 28 are a spreading and prolific stooling habit which retards erosion and lowers cultivation costs, resistance to drought and mosaic, a very high purity equal or superior to that of B.H. 10(12), a late to mid-season arrowing habit, and comparative freedom from pith in arrowed stalks.

Some of the desirable qualities of Mayaguez 63 are large solid canes that seldom decay and resist hurricane injury, resistance to mosaic and drought, freedom from irritating hairs at harvest time, erect canes that trash freely, and a sparse, late arrowing habit.

Mayaguez 28 occupies 3,500 acres including 315 acres at Jayuya, 600 at Isabela, and 900 at Coloso. It seems well adapted to the friable red clay land under irrigation at Isabela, to the dry hillsides near Coloso, and to the humid steep slopes of Jayuya. Without favorable data from additional variety trials the Station does not, however, recommend it for unrestricted extension. Mayaguez 28 has sometimes developed much rotten cane and planters should for this reason proceed with caution when planting it on lowlands of the north coast which are subject to overflow.

Mayaguez 63 occupies only 100 acres and very little is known as to its adaptability. Present information indicates that it will not ripen well on humid lowland.

